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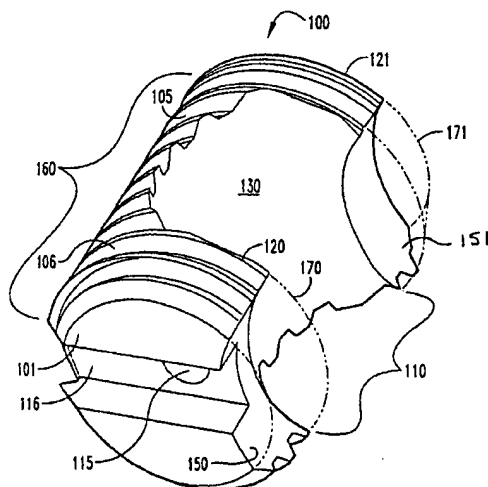
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[Continued on next page]

(54) Title: **TRUNCATED OPEN INTERVERTEBRAL SPACERS**



(57) Abstract: Open chambered spacers, implanting tools and methods are provided. The spacers (100) include a body (105) having a wall (106) which defines a chamber (130) and an opening (131) in communication with the chamber (130). In one embodiment the wall (106) includes a pair of arms (120, 121) facing one another and forming a mouth (110) to the chamber (130). Each of the arms has an end configured to form a region within which an adjacent spacer can nest. In one aspect the body (105) is a bone dowel comprising an off-center plug from the diaphysis of a long bone. The tool (300) includes spacer engaging means for engaging a spacer and occlusion means for blocking an opening defined in the spacer. In some embodiments, the occlusion means (320) includes a plate (321) extendible from the housing (305). In one specific embodiment the plate (321) defines a groove (322) which is disposed around a fastener (330) attached to the housing (305) so that the plate (321) is slideable relative to the housing (305).



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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

# INTERNATIONAL SEARCH REPORT

International Application No

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## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61F2/44 A61F2/46

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	US 6 033 438 A (BIANCHI JOHN R ET AL) 7 March 2000 (2000-03-07) figures 14,16 column 5, line 34 - line 56 column 7, line 43 - line 64 column 8, line 12 - line 27 column 9, line 1 - column 10, line 36 claims 1-46 ---	1-14,18, 19,23-28
X	WO 98 55052 A (SDGI HOLDINGS INC ;BIANCHI JOHN R (US); BOYD LARRY (US); CARTER KE) 10 December 1998 (1998-12-10) the whole document ---	1-14,18, 19,23-28
A	---	15-17, 20-22
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

\*A\* document defining the general state of the art which is not considered to be of particular relevance

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\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

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\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&\* document member of the same patent family

Date of the actual completion of the international search

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# INTERNATIONAL SEARCH REPORT

International Application No

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 593 409 A (MICHELSON GARY K) 14 January 1997 (1997-01-14) figures 5,17,23,25,26,43 column 9, line 50 -column 10, line 4 column 11, line 35 -column 12, line 32 column 12, line 55 -column 13, line 3 column 15, line 24 - line 49 ----	1,15-17, 20,21,23
A	US 5 658 337 A (YUAN HANSEN A ET AL) 19 August 1997 (1997-08-19) column 3, line 20 - line 32 column 7, line 5 - line 23 column 6, line 53 - line 59 ----	1,21,23
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A	US 5 423 825 A (LEVINE ANDREW S) 13 June 1995 (1995-06-13) figures 1,17 column 6, line 47 -column 7, line 34 ----	36-38
A	EP 0 421 485 A (PFIZER HOSPITAL PROD) 10 April 1991 (1991-04-10) figures 14,15 column 5, line 38 -column 6, line 35 -----	36-38

# INTERNATIONAL SEARCH REPORT

Intern. application No.  
PCT/US 00/00590

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 29-35  
because they relate to subject matter not required to be searched by this Authority, namely:  
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-28

An interbody fusion spacer, comprising an elongate body with two arms defining an opening and having an end configured to form a region which an adjacent spacer can nest.

2. Claims: 36-38

A spacer insertion tool comprising a housing, a shaft, an occlusion member.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/00590

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